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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,480	12/20/2001	Kazuo Hirose	WAKI-203	2161

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT PAPER NUMBER

2872

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,480

Applicant(s)

HIROSE ET AL.

Examiner

Arnel C. Lavarias

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/23/05, 4/15/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 23-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/23/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 4/15/05 has been entered.

Response to Amendment

2. The cancellation of Claims 1, 3-10, 21-22 in the submission dated 4/15/05 is acknowledged and accepted. In view of these amendments, the objections and rejections to Claims 1, 3-10, 21-22 in Sections 6-10 of the Office Action dated 10/12/04 are respectfully withdrawn.
3. The addition of Claims 23-33 in the submission dated 4/15/05 are acknowledged and accepted.

Claim Objections

4. Claims 23-33 are objected to because of the following informalities:

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Claims 23, 31-33 all recite the limitation "the core pin" in line 9 of Claim 23, line 7 of Claim 31, line 9 of Claim 32, and line 7 of Claim 33. There is insufficient antecedent basis for this limitation in the claim. Further, each of Claims 23, 31-33 recites "a core pin" in line 12 of Claim 23, line 10 of Claim 31, line 12 of Claim 32, and line 9 of Claim 33, and it is unclear whether "the core pin" and "a core pin" are one and the same, or two separate core pins. For purposes of examination, the limitations "the core pin" and "a core pin" are taken to be the same core pin. Claims 24-30 are dependent on Claim 23, and hence inherit the deficiencies of Claim 23.

Claim 31 recites the limitation "the cavity" in line 9. There is insufficient antecedent basis for this limitation in the claim. It is suggested that "a cavity" be used instead.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikegame et al. (U.S. Patent No. 6229778, of Ikegame '778), of record, in view of Hayakawa et al. (JP06027360A), of record, and Shoji et al. (U.S. Patent No. 4785434), of record.

Ikegame '778 discloses an optical pick-up (See Figures 2, 3, 9, 10) comprising a support shaft (See 12 in Figure 10), and an lens holder (See 6 in Figure 10) having a

bearing part (See the bore of 6 which is engaged with shaft 12 in Figure 10) which fits on the supporting shaft rotatably, wherein the lens holder is a resin molded product (See col. 8, lines 7-17) comprising a lens supporting part (See 6a in Figure 10) having a lens receiving surface (See surface on which element 21 rests in Figure 10), and the bearing part having a bearing surface disposed vertically to the lens receiving surface (See surface on which element 21 rests and the bore of 6 which is engaged with shaft 12 in Figure 10). Additionally, Ikegame '778 discloses the optical pick-up having a plurality of lens receiving surfaces disposed on it (see 4, 5, in Figures 2, 3) and the resin molded product being a liquid crystal resin composition (See col. 8, lines 7-17). Ikegame '778 lacks the resin molded product being injection molded and comprising a gate at an end of the bearing part disposed at an opposite side of the lens receiving surface and disposed parallel to an inside perimeter of the bearing part and disposed near a tip of a core pin and at a perimeter of the bearing part; the gate being disposed between a cavity in a fixed template of an injection mold and a core pin for a bearing hole, a tip of the core pin being held without contacting any parts in the cavity in the fixed template unconstrained. However, Hayakawa et al. teaches a method of producing a lens holder for an optical pick-up using an injection molding technique (See Figures 1, 2, 4) wherein the resin is injected into a die through a gate (See 10 in Figures 1, 2, 4; Abstract) such that the gate is disposed parallel to the inside perimeter of the bearing part (See 4 in Figures 1, 2, 4). Hayakawa et al. additionally teaches that the position of the gate may also be moved to the circumference of the lens holder, as shown in Figures 3, 6, and 7. One skilled in the art would realize that the gate may be positioned anywhere on the surface of the lens

holder, such as at an end of the bearing part disposed at an opposite side of the lens receiving surface (See recess next to 3 in Figures 1, 2, 4) or i.e. the gates 10 are located on the opposite side of where they are located in Figures 1, 2, 4, so long as the molten resin is injected to fill the entire mold or die to form the lens holder. Further, the gates may be parallel to the inside surface of the bearing part (See 4, 9, 10 in Figure 1). The combined teachings of Ikegame '778 and Hayakawa et al. lack the gate being disposed near a tip of a core pin and at a perimeter of the bearing part, and further being disposed between a cavity in a fixed template of an injection mold and a core pin for a bearing hole, a tip of the core pin being held without contacting any parts in the cavity in the fixed template unconstrained. However, Shoji et al. teaches a process for injection molding of a synthetic resin shaft and gear (See Abstract; Figures 5, 12), wherein the mold (See 23 in Figure 12A) for forming the desired part includes an upper half (See upper mold portion 23 of Figure 12A) and a lower half (See lower mold portion 23 of Figure 12A). Gates (See G in Figure 12A) are disposed adjacent the tip of a core pin and at a perimeter of the bearing part, and further between a cavity (See cavity portion between mold portions 23 in Figure 12A) in a fixed template of an injection mold and a core pin (See central pin extension from lower mold portion 23 in Figure 12A) for a bearing hole, the core pin being held in the cavity in the fixed template unconstrained (See free end of central pin extension from lower mold portion near gates G in Figure 12A; it is noted that this free end is not fixedly connected to the upper mold portion, and hence is unconstrained at least in the lateral direction) and the tip of the core pin not contacting any parts in the cavity (it is noted that the horizontal flat top of the core pin

between the gates in Figure 12A is only in contact with an upper portion of metal mold 23, this portion of the mold not being located in the cavity). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the resin molded product be injection molded and comprise a gate at an end of the bearing part disposed at an opposite side of the lens receiving surface and disposed parallel to an inside perimeter of the bearing part and disposed near a tip of a core pin and at a perimeter of the bearing part; the gate being disposed between a cavity in a fixed template of an injection mold and a core pin for a bearing hole, a tip of the core pin being held without contacting any parts in the cavity in the fixed template unconstrained, as taught by Hayakawa et al. and Shoji et al., in the optical pick-up of Ikegame '778 for the purpose of 1) improving dimensional accuracy of the bearing part as well as increasing the mechanical rigidity of the lens holder; and 2) providing increased mechanical strength since the resin orients itself in the flowing direction (See col. 8, line 60-col. 9, line 36 of Shoji et al.).

Allowable Subject Matter

7. Claims 23-31 would be allowable if rewritten or amended to overcome the objection(s) as set forth above in this Office action.
8. The following is a statement of reasons for the indication of allowable subject matter:

Claims 23 and 31 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest an optical pick-up and a lens holder for the optical pick-up, as generally set forth in Claims 23 and 31, the lens holder

of Claims 23 and 31 further including a gate disposed between a cavity in a fixed template of an injection mold and the core pin for a bearing hole, the core pin being held in the cavity not in contacting any parts in the fixed template unconstrained. Claims 24-30 are dependent on Claim 23, and hence are allowable for at least the same reasons Claim 23 is allowable.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4917846 to Takase et al.

Takase et al. is being cited to evidence the conventional mold injection process for fabrication of conventional moldable elements (See Abstract; Figures 2, 4 12, 17, 21). In particular, the mold injection process utilizes one or more gates (See for example 13a, 13b in Figure 4) in a fixed template (See for example 10 in Figure 4) and a core pin (See protrusion in element 14 contacting element 10 in Figure 4) to create a bearing part. However, the core pin contacts the fixed template (See protrusion in element 14 contacting element 10 in Figure 4).

JP11-203699 to Hirose, of record.

Hirose, which was cited by Applicants in the Information Disclosure Statement dated 5/23/05, is being cited to evidence the conventional mold injection process for fabrication of conventional lens holders for optical pick-ups (See Abstract; Figures 1, 5). In particular, the mold injection process utilizes one or more gates (See for example 8 in

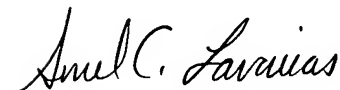
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Figures 1, 5) in a fixed template (See for example 2 in Figures 1, 5) and a core pin (See 3 in Figures 1, 5) to create a bearing part. However, the core pin contacts the fixed template (See contact points between 2 and 3 in Figures 1, 5).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias
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Group Art Unit 2872
6/3/05